

What is claimed is:

1. A biosensor having

5 (a) an electrode support;

(b) an arrangement of electrodes disposed on the electrode support, the arrangement of electrodes comprising at least a working electrode and at least a second electrode;

10

(c) a conductive track leading from the working electrode to an electrical contact associated with the working electrode and a conductive track leading from the second electrode to an electrical contact associated with the at least second electrode; and

15

(d) at least one reagent incorporated in at least one of the working electrode, the conductive track leading from the working electrode to the electrical contact associated with the working electrode, or the electrical contact associated with the working electrode.

20

2. The biosensor of claim 1, wherein the at least one reagent comprises at least one enzyme or at least one mediator or at least one co-enzyme or at least two of the enzyme, the mediator, or the co-enzyme.

25

3. The biosensor of claim 2, wherein the mediator is selected from the group consisting of organometallic compounds, organic compounds, and coordination compounds with inorganic or organic ligands.

30

4. The biosensor of claim 2, wherein the enzyme is selected from the group consisting of oxidases and dehydrogenases.

5. The biosensor of claim 1, further including at least one reagent-containing layer overlying the conductive track leading from the working electrode.

6. The biosensor of claim 1, the biosensor requiring a low volume of sample to trigger an electrochemical reaction.

5 7. The biosensor of claim 1, wherein spacing between the working electrode and the at least second electrode does not exceed about 200 micrometers.

8. The biosensor of claim 1, wherein the working electrode has an
10 area of from about 0.5 mm² to about 5 mm².

9. The biosensor of claim 1, wherein the electrode arrangement further comprises a trigger electrode.

15 10. The biosensor of claim 1, wherein the electrode arrangement further comprises a third electrode.

11. The biosensor of claim 10, wherein the electrode arrangement further comprises a fourth electrode, said fourth electrode having the function
20 of a trigger electrode.

12. The biosensor of claim 1, further comprising an insulating layer overlying said electrode arrangement and said conductive tracks.

25 13. The biosensor of claim 12, wherein a layer of mesh is interposed between the electrode arrangement and the insulating layer.

14. The biosensor of claim 12, wherein a capillary is interposed between the electrode arrangement and the insulating layer.
30

15. The biosensor of claim 1, further comprising a layer of tape overlying said electrode arrangement and said conductive tracks.

16. A biosensor having

- (a) a first substrate having two major surfaces;
- (b) a second substrate having two major surfaces;
- 5 (c) a working electrode disposed on one major surface of the first substrate;
- (d) at least a second electrode disposed on one major surface of
- 10 the second substrate;
- (e) a conductive track leading from the working electrode to an electrical contact associated with the working electrode and a conductive track leading from the second electrode to an electrical contact associated
- 15 with the at least second electrode;
- (f) at least one reagent incorporated in at least one of the working electrode, the conductive track leading from the working electrode to the electrical contact associated with the working electrode, or the electrical
- 20 contact associated with the working electrode;
- (g) an insulating layer disposed between said working electrode and said at least second electrode;
- 25 (f) the major surface bearing the working electrode facing the major surface bearing the at least second electrode.

17. The biosensor of claim 16, wherein the at least one reagent comprises at least one enzyme or at least one mediator or at least one co-enzyme or at least two of the enzyme, the mediator, or the co-enzyme.

30

18. The biosensor of claim 17, wherein the mediator is selected from the group consisting of organometallic compounds, organic compounds, and coordination compounds with inorganic or organic ligands.

19. The biosensor of claim 17, wherein the enzyme is selected from the group consisting of oxidases and dehydrogenases.

5 20. The biosensor of claim 16, further including at least one reagent-containing layer overlying the conductive track leading from the working electrode.

21. The biosensor of claim 16, the biosensor requiring a low volume
10 of sample to trigger an electrochemical reaction.

22. The biosensor of claim 16, wherein spacing between the working electrode and the at least one other electrode does not exceed about 200 micrometers.

15

23. The biosensor of claim 16, wherein the working electrode has an area of from about 0.5 mm² to about 5 mm².

24. The biosensor of claim 16, wherein the electrode arrangement
20 further comprises a trigger electrode.

25. The biosensor of claim 16, wherein the electrode arrangement further comprises a third electrode.

25 26. The biosensor of claim 25, wherein the electrode arrangement further comprises a fourth electrode, said fourth electrode having the function of a trigger electrode.

27. The biosensor of claim 16, wherein a layer of mesh is interposed
30 between the working electrode and the insulating layer.

28. The biosensor of claim 16, wherein a capillary is interposed between the working electrode and the insulating layer.